

Notebook

Jan. 15 - Jan. 31, 1931

W. J. Moyses

S. Dept. of Agric.

Japan.

Note Book.

Agricultural Notes.

Jan. 16 to Jan. 31, 1931.

W. J. Morse

U. S. Dept. Agr.

Washington, D. C.

Japan.

///



Kynermon

~~K.K.U.E.~~

Hayakawa Miss Co.

Friday - Jan. 16th 1931.

Okazaki = Japan

Cold and clear.

The landlady of the inn advised us last night that there were two factories in Okazaki manufacturing the famous Okazaki Black Miso. She phoned to one and found that visitors could not be received today as the master was away. The other factory advised that they would be glad to have us come and they would explain to us and show the manufacture of the miso.

We left by train after the Kyūemon Hayakawa

Miso Co. whose factory
was on the outskirts of
Ukagaki. One of the
foremen showed us
entirely through the
plant and explained
the manufacture of black
miso step by step.

The Kakigama Miso
Co. has been manufacturing
black miso at this place
for about 300 years. The
same methods used
then are used now.

One of the Professors and
graduate students spent
2 months at the factory
studying the manufacture
of this black miso to see
if some improved
methods could not be

used, but for they have
not been able to make
any improvement over
the old method. The trade
name is "Haccho Miso".

The beans used are
obtained from Hokkaido,
Chosen, Manchuria and
the main island. The
company sells about
50,000 Kan yearly. The
miso is put up in small
tubs of different sizes
and small boxes.

The beans are first washed
thoroughly in running
water. Then they are
carried to the steel tanks
where they are soaked
for 3 hours in cold
water depending on the

season. The water is drained off and the beans allowed to remain in the tanks until the next morning. They are then placed in the steamer tubs and cooked on a slow fire for about 8 hrs. The cooked or steamed beans are allowed to remain until the next morning in the tubs. While still hot the beans are run through a grinder or mill and ground rather coarsely. In grinding the bean material comes out in lumps about the size of one's fist. The ground material is taken

at one to the left and spread out on thick rice straw mats. Here it is allowed to develop a mold which takes about 8 days. A yellowish mould covers the humps of bean material about $\frac{1}{8}$ in. thick. After spreading out the bean material, it is allowed to cool to 50°C and when it reaches this temperature it is covered with rice straw mats.

: After the mold has developed (8 days) the material is again ground rather coarsely and placed in large curing tubs. During the process

of filling the tub, a salt water solution is sprinkled over the mass from time to time at the rate of about $1\frac{1}{2}$ gallons of the solution to 1 bu. of bean material. The salt solution is made up of 25% salt to 1 bu. Bean material. That is 8 qts of salt & $1-1\frac{1}{2}$ gals. fresh water. After packing the curing tub to about within 1 foot of the top, a heavy^{ies} straw mat is placed on the material. Then stones to about a weight of 1200 lbs. are placed in the mat. The material

is allowed to cure for
20 mos. in the tubs, after
curing this length of
time, the material is
a dark reddish brown
compact mass somewhat
dry. It is then ground
into different grades
and packed in tubs
or boxes. This miso is
used in making
soups and preserving
vegetables. It is said
to keep indefinitely,
when cured after
twenty months about
1 foot of the top of the
miso material in the
tub is removed and
sold for making a
grade of soy sauce.

At breakfast in the
inn we were served
black miso soup. I
had a much higher
flavor than red miso
and suggested the taste
of soy sauce. This is the
only section in Japan
where black miso is made.
It is made entirely
of soy beans and no
bacteria are added in
the mashing of the beans.

Two small tubs and
two small boxes of this
miso were purchased
for the soy bean exhibit.

After our visit to the
miso factory we went
to Anjo where the

main ag. exp. sta.
of the Aichi Prefecture
is located. We met here
Mr. Shinto Kanai, director of the
station, to whom we had
a letter of introduction
from Mr. Sato. S.M. Ry.
Saireu. The work carried
on by this station consists
of animal husbandry
(mostly poultry & hogs),
horticulture, soil work,
chemistry, and rice.
The station has used
sawdust oil cake in
feeding experiments
with poultry, hogs and
cattle for about 10 years.
For 5 years the station
has cooperated with the
S.M. Ry. in feeding

experiments with soybean
oil cake. Two publications
have been published giving
results of soybean oil
cake feeding experiments.
At the present time very
extensive work is being
done in ^{bean cake} feeding experiments
with poultry. This pre-
fecture (Aichi) produces
eggs and chickens quite
extensively. In Japan
there are 46,000,000
head of poultry of which
6,000,000 are in the
Aichi Prefecture. Poultry
feed consumed in this
prefecture amounts to
¥18,000,000 yearly. 60%
of this amount of feed

is bought from outside
of the prefecture, that is
only 40% of the poultry
feed consumed is pro-
duced in the prefecture.
The value of eggs and
chickens produced and
sold amounts to about
¥23,000,000 yearly. White
leghorns are used mostly
but two breeds - native
the prefecture - Buff Cochins
are used to a small
extent.

Beam^{cake} to the value of
¥120,000,000 is imported
by Japan yearly. Of this
about ¥8,000,000 is used
in the Aichi Prefecture. The
cake is used largely for
fertilizing purposes.

but is being increasingly used for poultry and cattle feed.

Silage is being used to some extent by dairy farms and is made of George clover, hairy vetch and soybeans to a slight extent. The exp. sta. has done experimental work with silage and soybean hay. The results of which will be published shortly.

Animal Industry, agronomy, and horticulture branch stations of the prefecture are located near Nagoya.

There are about 30,000 head of work, dairy

and beef cattle in the
Richi Prefecture. About
20 % (6000) are killed
yearly for meat. About
50,000 pigs are produced,
50% of which are killed
for meat most of which
is used in the prefecture.
There are about 16,000
heads of horses and
about 6,000 head of
dairy cattle (principally
Holstein).

Beef cattle for meat
production are not
produced as such. The
cattle are worked on the
farms for 4-5 years.
They are then given a
period of fattening for

fattening - about 100
days. In fattening, the
farmers use soybean
oil cake, barley (boiled),
wheat bran, rice bran,
rice straw and some-
times millet and
Kao-liang.

In dairy feeding
farmers use soybean
oil cake, and silage of
guinea clover, sweet
potato vines or corn.
Sweet potato vines are
sometimes used as
hay.

Mr. Kanai took us
over the station and
to the poultry houses
where special soybean
cake feeding experiment

are being conducted
for egg and flesh
production.

The station is not doing
any soybean breeding
work as the farmers
only grow soybeans on
the edges of the rice
paddies. The plant is
raised for seed which
is used in the home for
food and for miso,
soy sauce & bean curd.
Several varieties are grown
in this section and
Mr. Kanai promised to
collect varieties from the
neighboring farmers
and send to Tokyo.

Lobster - blockhouse 1.00

Two tubs Chikuzuki miso 1.60

Taxi - Miso place & exp. - 3.50

Farmer near Argo

Exp. fare - Chikuzuki - Tokyo -

Taxi - Tokyo 10.00 to Hotel

Left Chikuzuki ——— 2:07 PM

Arr Tokyo Sta ——— 8:25 PM

Saturday-Jan. 17, 1931.
Tokyo - Japan.

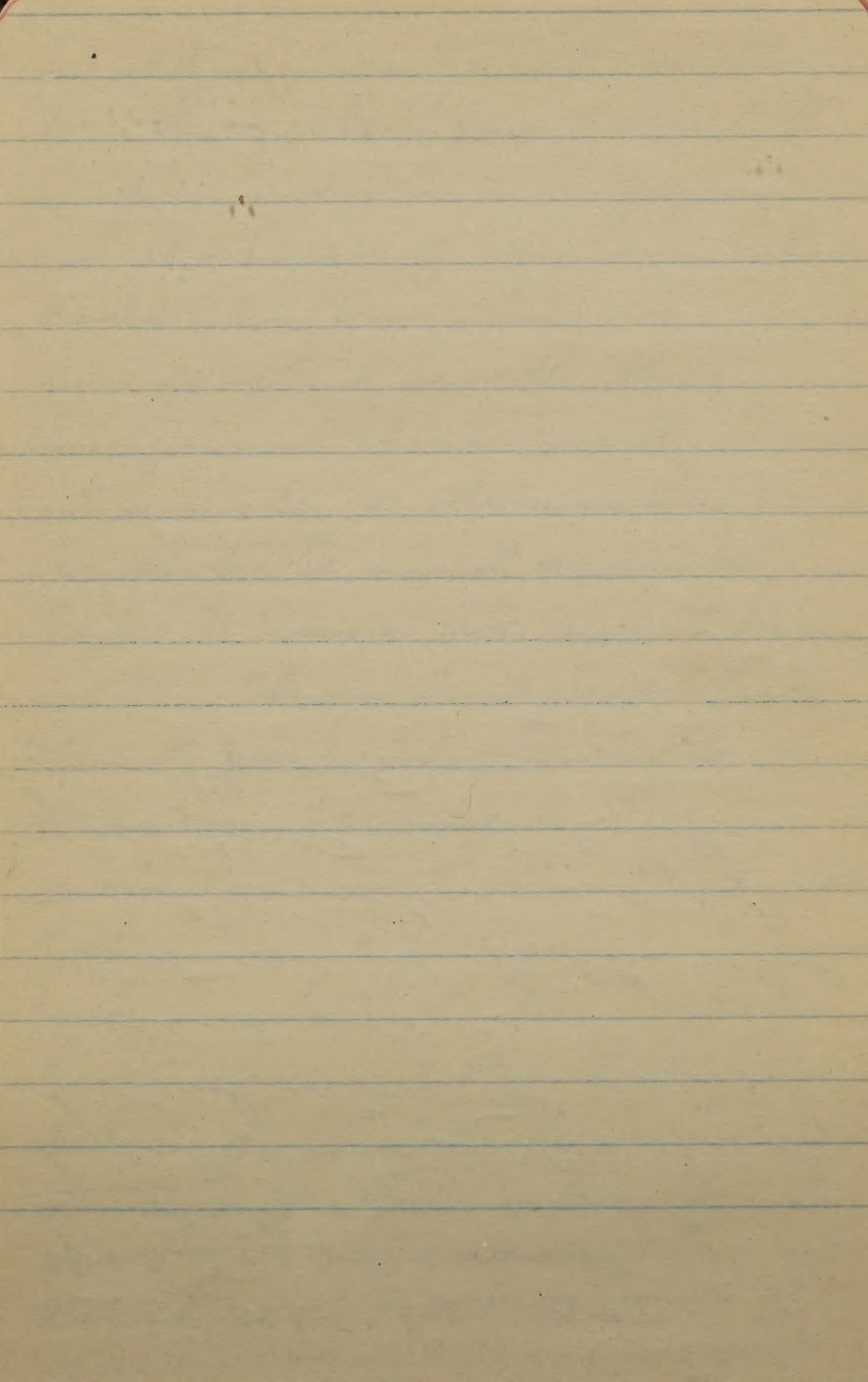
Mild and clear. In the morning went to the Dollar Steamship Line to arrange passage for Feb. 3 or 11/7. Then went to the S.M. Ry. Office in the Maru-nouchi Bld. where we met Mr. Matsuda. He advised that a conference was to be held at the Tachikawa Exp. Sta. on soybean oil cake feeding Tues. Jan. 20 and that he would like to have us attend as we could gain much data on the use of soybean cake or feed for cattle, poultry and hogs. He said that also he

had been in touch with
Dr. Suzuki, one of the best
informed men in Japan
on the uses of soybean oil
cake. Dr. Suzuki is
connected with the
Imperial University and
also with a Chemical
Institute and would
like to have us meet him
at the Chemical Institute
Wed. June 21 to talk
over in general the
uses of soybean oil
cake in Japan.

We went to the Japanese
Customs at the Tokyo
Wharf and found
that our trunks had
not yet passed the
Customs. We went to

the director of customs
and Mr. Snydacker
explained matters. We
had to open each trunk
but the inspector merely
looked at the top and
passed all.

Returned to the hotel
and wrote up my
products and also
publications.



Sunday - Jan. 18. 1931.

Tokyo - Japan.

Cool and clear.

Worked on writing
my publications and
checking up my farm
products.

Have sufficient
material for filling
three parcel boxes.
of products, seeds
and publications.

Monday = Jan. 19, 1931.

Tokyo = Japan.

Cool and clear,

Film packs 1.60

Prints - 3 1/4 x 4 1/4 1.60

Got in touch with
Professor Abazaka of the
Tokyo Agr. Coll. with re-
ference to green manure
and bacteriology. He
advised that Dr. Asawa
of the Imper. Coll. is
doing much work with
legume cultures and
also green manures. An
appointment will be
made so that we can
have a conference with
Dr. Asawa within a
few days.

In the afternoon

we put up two
parcel packages to
send by diplomatic
mail to the U.S.

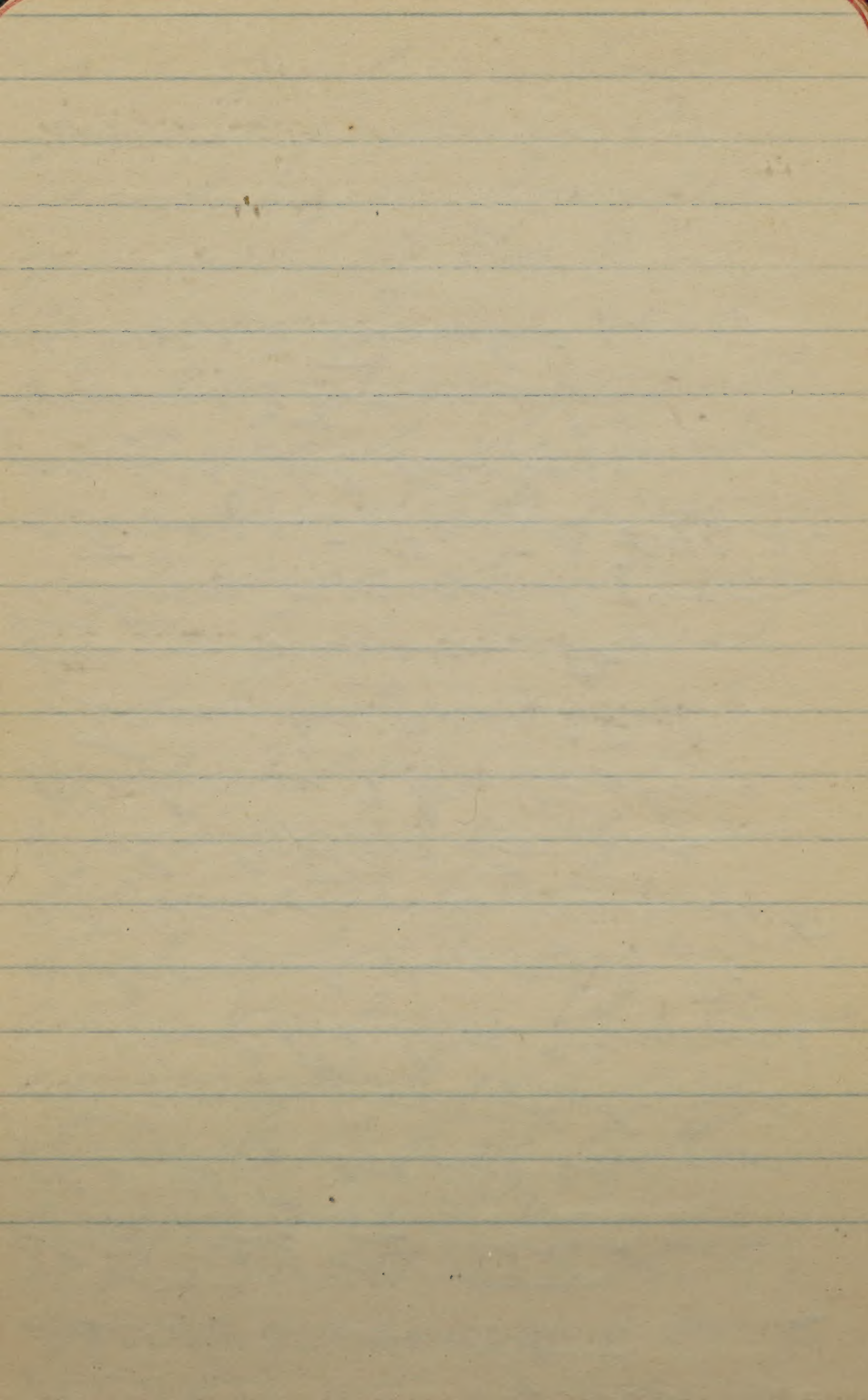
These contain seed
and soybean products.

At night we had
our beefsteaks preserved
in miso at a dinner
at the Frigo. The meat
had been preserved
just 8 days in the
white miso and when
taken out had a
dark color throughout.
After broiling the flavor
reminded me very
much of that of the
sugar cured hams
of the Southern states.
Miso preserved beef.

brakes an excellent
ham substitute and
should be tested in
the U.S. as it seems
to have possibilities.

Had the Sec. examine
account sworn to
at American Consulate,
wrote letters to Joe
Mahoney & Dr. Pieters.

Trunks freighted
from Suran to
Tokyo received from
storage - Parle \$42.24
for freight, storage,
roving & transportation
on boxes & trunks.



Tachikawa - Japan.

Tuesday - Jan. 20, 1931.

Tokyo - Japan.

Cool & clear

Postage 84

In the morning
worked on some Japanese
publications regarding
the manufacture of
Tatsumi soy sauce.

Went to the Dollar
Steamship line and
found that they had
reserved for me cabin
No. 129 on the President
McKinley sailing from
Yokohama Feb. 17 at
3 P.M. The cabin is
on A deck at \$350 but
with the bath detached
is \$300. The manager

advised that if I were
connected with the
Embassy, Consulate, Army
or Navy I could obtain
a 25% reduction on my
fare.

We then went to the
Smith Manchuria Ry.
where we met Mr.
Matanda who took us
to see the chief Mr.
of the Train
Intelligence Bureau.
We left by train at
1 P.M. to visit the
Hog Farm at Tachikawa
where there was to be
a conference on the
results thus far
obtained with feeding
young pigs rather
a high success

oil cake feed.

Four experiments were being run using the standard mash and different percentages of boiled rice, barley and soybean oil cake in the standard mash. These four feeds were given in addition to the mother's milk and were started when the pigs were 2 days old. For 3-4 weeks the pigs fed mash with 40% soybean oil cake made very rapid gains but then began to develop serious stomach trouble and within four weeks all pigs on the soybean cake feed had died.

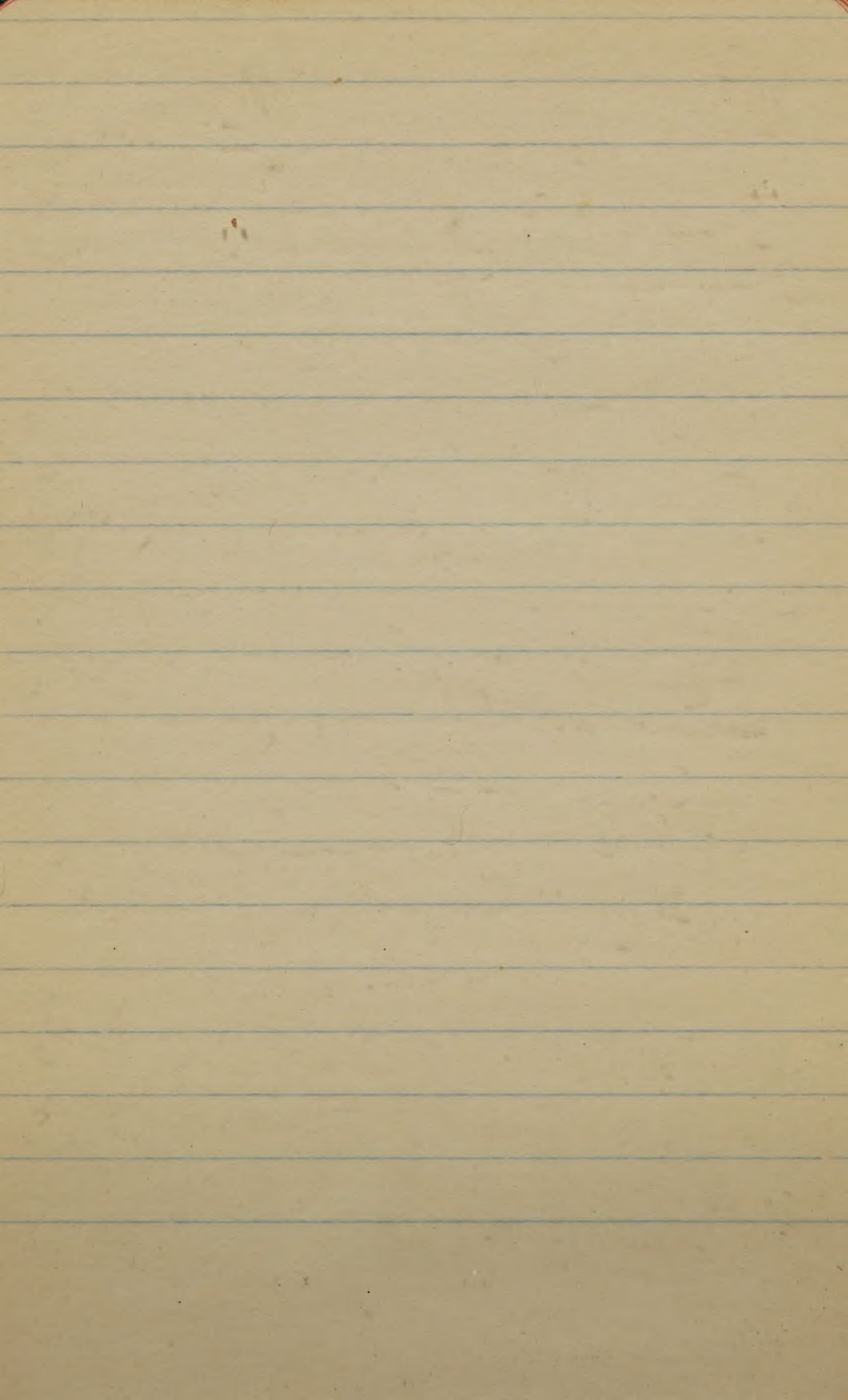
Knowing the high content of the protein of soybean oil cake, it seems rather a drastic move on the part of the experimenters to start 2 day old pigs on a mash containing nearly one-half soybean oil cake. With fully developed cattle and hogs in American feeders always exercise the greatest care in the feeding of a feed as rich in protein as the soybean oil cake. The director of the station gave us the formula for the standard

Feed used as well as also
the analysis for same
Standard Hog Feed.

Feed	1 to	Per 1 sho	
Rice bran	2 20	190	418
Barley bran	1 00	85	85
Wheat bran	70	160	98
Corn meal	30	165	50
Soybean cake	70	215	150
Fish meal	20	225	45
Salt	05	440	22
Lime	25 ^{gms}		7
Water	10 00		
		3281	= 875

Analysis

Moisture	10.26
Protein	17.13
Fat	8.79
Carbohydrates	43.60
Fiber	7.24
Nut. Ratio	115.16



Wednesday = Jan. 21, 1931.

Tokyo = Japan.

Cold, windy, clear

Singapore

\$ 50

Postage

16

Freight etc. for Danie \$ 24.50

4 boxes Ayobkham

In the morning went
to the Dollar Steamship
line where I met Mr.

Joseph Conway, manager.

Mr. Conway wanted to know
if I had any connection
with the Embassy, Consulate

Amy or Navy for I had
I could secure a 25%

reduction in the fares
of my family and self
on the Dollar Steamers.
With the Chinese, the
Dollar Lines grants

a 25% reduction in
fare to all officials.
Mr. Conway is going
to bring to the attention
of the Dollar Line the
point of granting the
officials of the U.S. Dept.
of Agr. the same re-
duction as granted
the State, War, and
Navy departments.

The assistant at the
office stated yesterday
that in shipping trunks
by freight to San Francisco,
the trunks would have
to be crated but Mr. Conway
advised that this was
not so and that he
thought he could
arrange to take care

of my excess baggage
without extra charge.

After lunch we went
to The Institute of
Physical and Chemical
Research to meet Dr.
Suzuki, Prof. of Biological
Chemistry at the Imper.
University and head
chemist at the Institute.
The Smith Manufacturing
has a cooperative
arrangement with the
Institute whereby Dr.
Suzuki is making
a complete study of
the utilization of ray
beams and its products.
The S.M. Co. is especially
anxious in the greater
use of ray beam oil coke
in Japan other than

for use as fertilizers.
On his research
work Dr. Suzuki has
made a special study
of the diet of the Japanese
people. 97% of the
food of the Japanese
people is vegetable,
2 per cent marine
products and 1%
meat. Of the vegetables
12 per cent is protein
and 88% carbohydrate,
an extremely wide
nutritive ratio. Much
of the vegetable protein
is supplied by beans,
especially the soy bean.

Results of Dr. Suzuki's
researches on the
use of the soy bean

and its products are soon to be published through the central Laboratory of the S. M. Ry. and copies in English will be sent as soon as available for distribution.

At Kyoto, Dr. Suzuki said there is a restaurant specializing in soybean dishes such as bean curd, yuba, etc.

Dr. Suzuki has done much experimenting in the use of soybean flour - from extracted bean cake - in the making of bread. The bakers have not been successful in using more than 20% soybean flour with 80% of

wheat flour. He has
made a complete
food in a bread in
which 3% fish meal
is used with wheat
flour and to which
calcium and phos-
phates have been added.
This fish meal bread
is common in the market
and is recommended
to school children.
Savory crackers are
also made with fish
meal and wheat flour.
The fish meal is
made from fish cake
- cod and sardines -
from which the oil
has been extracted
by the benzine process.

This meal is not
sold commercially
at stores.

With reference to the
Soyaminant, Dr. Suzuki
advised that this is
a soy sauce substitute,
half chemical and
half fermentation.
Soybean oil cake is
first treated with
10% hydrochloric acid
solution and when
dissolved is neutralized
with caustic soda.
The material is then
allowed to ferment
in tubs for 5-6 months.
There is a factory manu-
facturing soyaminant
in the Tokyo district
and Dr. Suzuki

thought it would be
desirable for us to
visit the factory.

Our research work
Dr. Sengulski has found
that in using whole
beans as a food or
feed, cooked beans
give better results than
roasted beans - as the
proteins in the cells
are made more
available. Bean curd
has been found to be
a better food for
diabetics than soy-
bean flour.

The use of soy beans
as a food originated
in the temples in
the early days. No

meat was eaten and
the soy bean offered
the best meat substitute.
This is especially true
in Kyoto, the ancient
capital of Japan and
where there are so many
temples.

Dr. Morioka is the
cell in Morioka and
who studied under
Meridel & Osborne in
Conn. (New Haven) has
been working several
years on soy bean pro-
ducts. He has found
a new Datto bacteria
and has a new form
of string Datto.

Thursday Jan. 22, 1931.
Chiba-Japan.

Carl & Clara.

Austrian Animal Pear (24)

Dr. Kimura.

Chiba Animal Expo. 12.

Chiba, Japan.

Left Dairabuchi Sta AM. 8.45

Ar. Chiba 10.25 AM

Lr. Chiba 5.02 PM.

Ar. Dairabuchi Sta 6.35 PM

Fare - 3 - Dairabuchi to Chiba -

" - 3 - Chiba to Dairabuchi -

Arriving at the Chiba
Zootechnical Expo. Sta.
we met Dr. Kimura,
director, to whom we had
a letter of introduction
from Mr. Suite of the S.M.
Reg. Dairen and the Chief
of the Grain Products

Bureau of the Imperial
Dept. of Agr. at Tokyo.
Dr. Kimura specializes
in poultry and has ex-
perience along all
animal husbandry
lines.

The zootechnical ex-
periment farm consists of about
65 hectares and is
devoted wholly to
animal industry work
and is the main stu-
dy of such work of the
Imperial Dept. of Agr.
It is a similar insti-
tution to the animal
husbandry farm of the
U. S. Dept. of Agr. at
Beltsville, Md.

Experimental work is
carried on with dairy
cows, beef cattle, poultry,
hogs, rabbits and bees.
The station has a well
equipped laboratories
for chemistry, forage
crops, feed; Dairy
and meat products.

In the dairy laboratory
butter, ^{ice cream} cheese and
other products are
made from milks.

Experiments are being
carried on with the
manufacture of casein,
soy sauce, milk powder
from skimmed milks.

They also have a small
abattoir where work is
carried on with the
production of hams,

Bacon, sausage and
the canning of several
meat products.

In dairy cattle work,
Holsteins are used, the
stock being imported
from America. On the
dairy feed, soybean
oil cake meal con-
stitutes 20 % of the ration.
The hay used is wild
hay - grasses, legumes
and much purchased
from farmers who
gather it from waste
places and along road
sides. Up to the present
year silage was used
during the winter.
Milk was made of corn
and soybeans - 20 %

soybeans and 80% corn.
During the summer
green feed is used con-
sisting of cowpeas, cowpeas
and Sudan grass, alfalfa,
and soybeans.

On the same work.
The middle white York-
shire is principally
used but they also are
experimenting with Berk-
shire, Duroc Jersey,
and Poland China.
On the standard
ration 5% soybean
oil cake is used.

The station is doing
considerable work with
poultry and soybean
oil cake meal has given
more economical results
than fish meal and
also the quality of eggs

is better. In cost
of egg production, soy
bean meal averaged
.75 per lb, fish meal
& soybean meal .81
per lb and fish meal
.95 per lb. Thus
soybean meal with
minerals, bone meal,
salt and calcium
carbonate has been
found the most
economical protein
feed.

Several breeds of
rabbits or hares for
meat production from
Europe, America, New
Zealand and Japan
are being experimented
with. Soybean cake
meal and also soybean

curd mash are used in the ratons with good success, and some feeding tests with canaries testing out vitamins, soy bean oil meal gives good results in the parent birds but the chicks only remain alive for about two weeks. The cause of this has not yet been determined.

The station also has a very large number of bees.

In the feeding experiments soy bean oil meal, soy bean curd mash and soy sauce mash are used for cattle, hogs, poultry & rabbits.

Numerous bulletins
concerning saybrom
cake experiments were
furnished.

Friday = Jan. 23, 1931
Tokyo = Japan.

Mild and cloudy,
in the morning.

Mr. Adrian L. Danson,
Agricultural Commissioner,
and Mr. Fred J. Rossiter,
Asst. Agr. Commissioner,
called at the hotel
to see me, having
learned my address
from the American
Consulate. They are
on their way to
Shanghai, China to
take the place of Mr.
Paul O. Nyhus, present
Agr. Commissioner at
Shanghai, as they
are to make surveys
of crop conditions in

China, and Manchuria.
They were especially
desirous of obtaining
information concerning
Manchuria's crops
and secure information
as to best sources of
securing data.

Mr. Dawson was Agr.
Commissioner at Berlin
Germany and was
well acquainted with
Mr. Nestor during the
two seasons Nestor
was in Germany. He
collected considerable
information on the soy
bean oil industry in
Europe.

We visited the Agr.
Coll. to visit Prof.

in charge of animal
industry work. To
whom we had a letter
of introduction from
Mr. Sato of the S. M. Ry,
Dairen. We found that
Prof. had been
suddenly called out
and would not return
until Monday. We met
one of his assistants
who advised that con-
siderable work was
being done toward the
recommending of
saw bean cake meal
for feeding cattle, hogs
and poultry. Animal
Industry Experiment
Stations throughout
the country were con-
ducting extensive
tests in cooperation

with the S.M. Ry. &
make greater use of
sugar cane meal in
animal feeds.

Worked on quarterly
reports.

Saturday-Jan. 24, 1930.

Tokyo-Japan,

Cool and clear.

Japanese Soy sauce

Japanese soy sauce is prepared in approximately 12000 workshops, and besides it is made by many private persons at home for their own consumption. The most renowned makers are in the Kwantō district, especially in Chiba prefecture, for instance, in Noda, near Chiba, where the "Kikkoman" and "Higeta" soys are made, and in the Kwansei district where they manufacture in the

Shodo Isle the well known "Marukin" soy. It is made of soy beans by fermentation and subsequent salting and used for flavoring food. Recently it has been reported to foreign countries in considerable quantities; the value of the export amounted during the last year () to 1,400,000 or 1,500,000 yen per year. The chief market abroad is China because among the Chinese there is a special taste for it, many Chinese preferring it to the Chinese soy sauce. Also in Europe and America

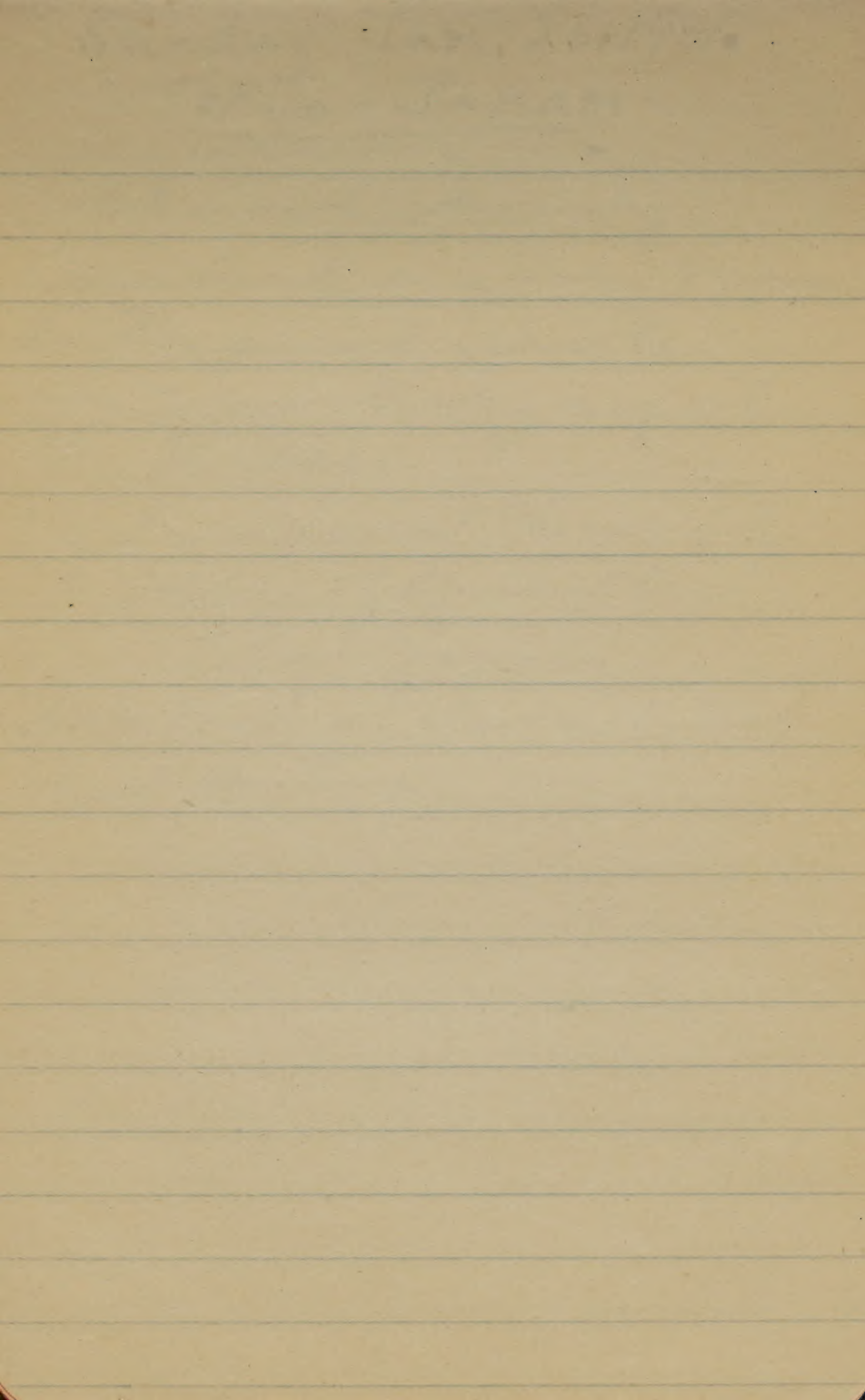
Some people fancy it
instead of the Maggi
flavoring extract.

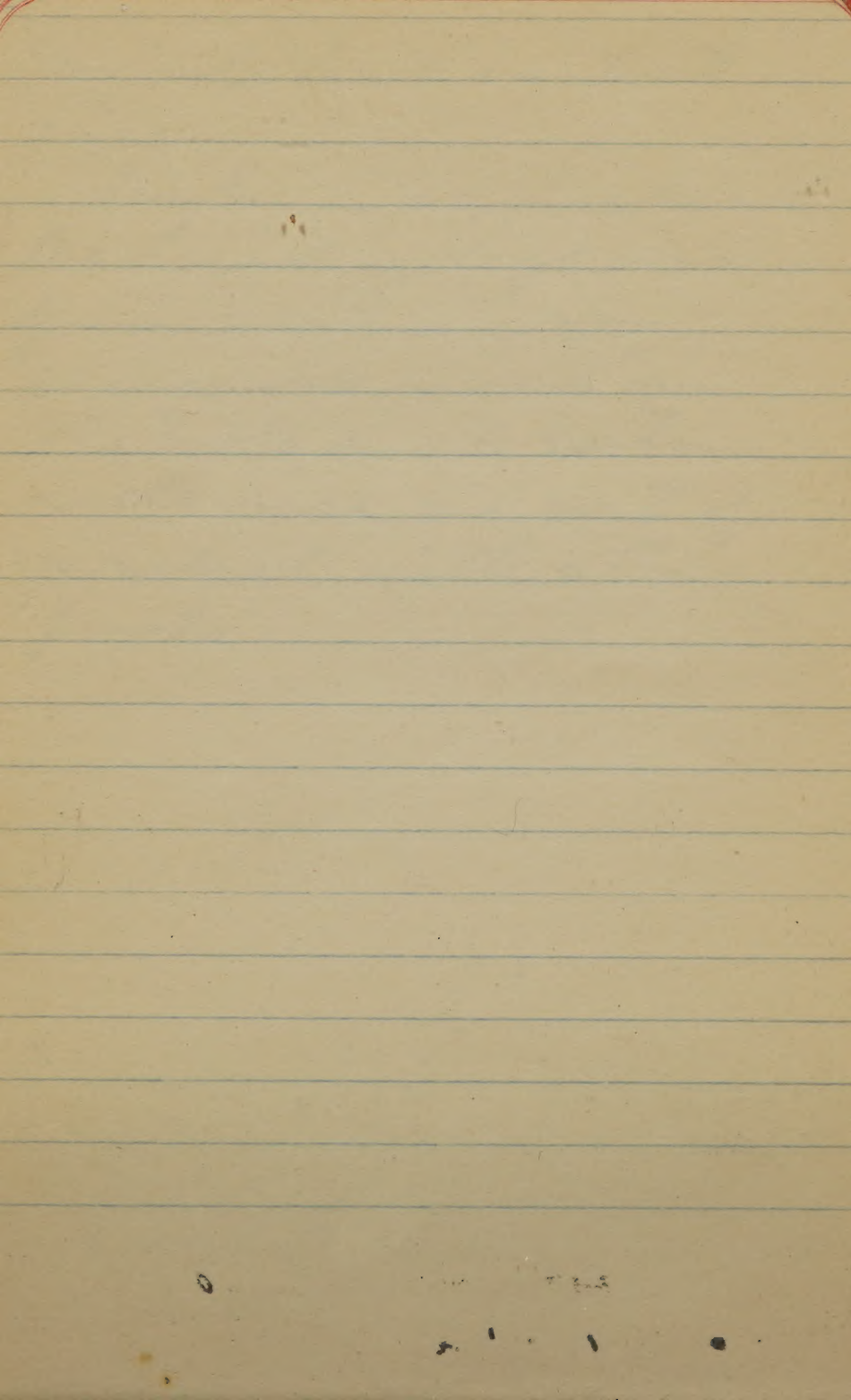
At a Japanese dinner
at night we had several
foods made from
soybean products.
Black miso soup in
which there were small
pieces of bean curd,
small slices of green
onion, and small
pieces of tambooshoto.

Miso fish: Small
dried fish like sardines
are ground into a
powder. The ground
fish is mixed with
red miso, small
quantity of water added
and boiled for a short
time. This is eaten

while hot on hot
rice.

Soybean sauce made.
The residue left over
from making soy
sauce is used on
the table and eaten
with rice as sort of
a relish with other
foods.





Sunday, Jan. 25, 1931.
Tokyo = Japan.

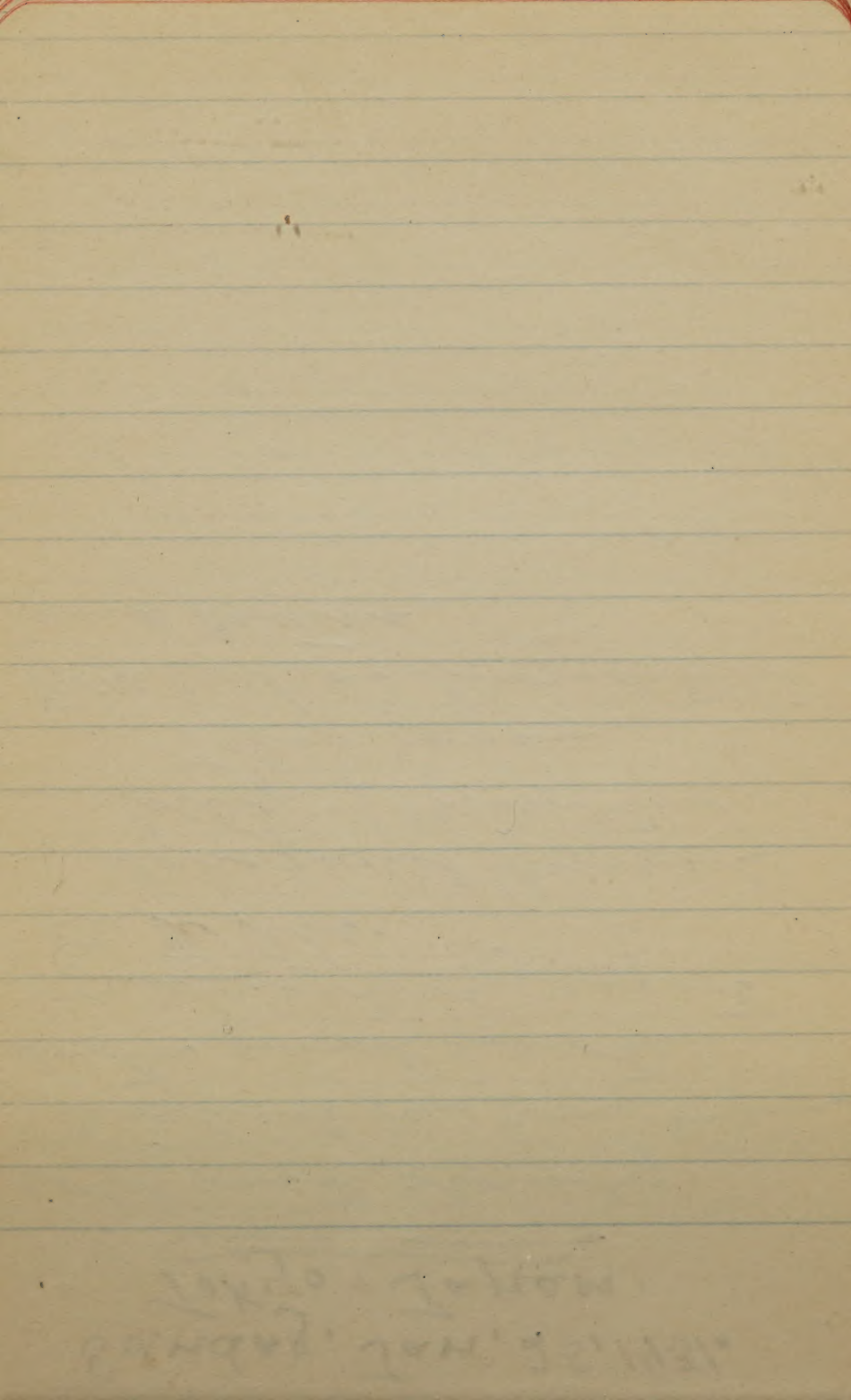
Cold and cloudy.

Worked on my manuscript and wrote
on quarterly report.
Dr. K. Aso.

Imperial University
College of Agriculture.

Tokyo, Japan

Wisc. Bull. on Inoculation
and Bacteria,

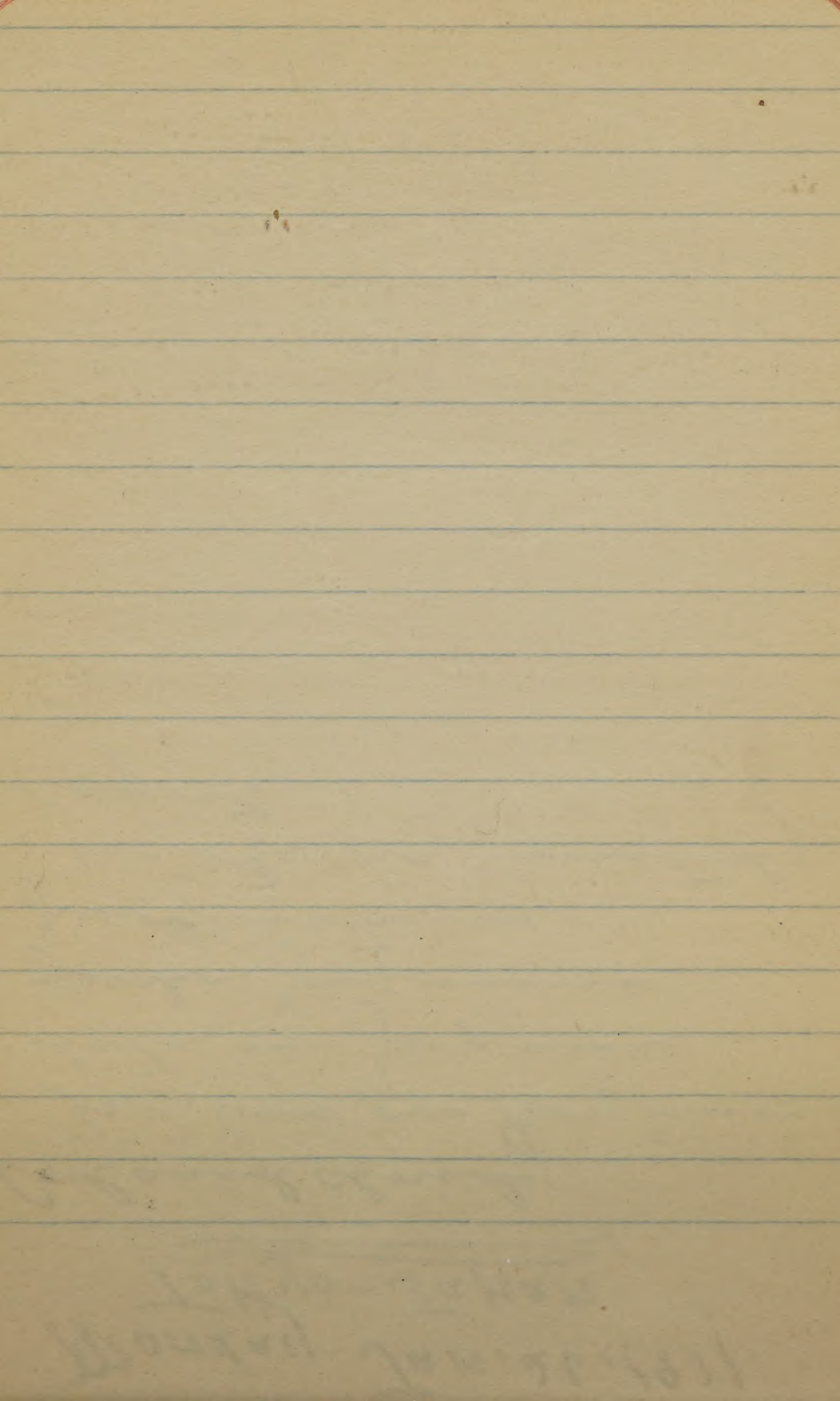


Monday - Jan. 26, 1931.
Tokyo - Japan.

Cool and cloudy.

Worked on Soybean
data in Japan
from Japanese
publications.

Wrote on quarterly
report.



Tuesday - Jan. 27, 1931 -
Tokyo - Japan.

Cold and windy.

At the consulate we
received a package of
suy bean seed samples
from

director of the ^{Prefecture} Seed &
Nursery Farm, Heijo,
Chosen. In all there

52 numbers representing
native varieties collected
by Mr. ^{from}

farmers in northern
Korea. On writing

my ^{friend} ~~group~~ some
very interesting types
of seed were found.

After numbering up
the seed samples,
suy bean data was

collected from some
Japanese publications.
Morton Dorrsett as
Peking regarding
finances.

Wednesday-Jan. 28, 1934.
Tokyo-Japan.

Cool and clear.

Checked up publications
seed, and products.
Had sufficient for
two parcel packages
which were packed
& label - nos. 241 and
242 - ready for the next
diplomatic pouch.

On account of Mr.
Suyetake's illness
we went over
some of the Japanese
Sta publications and
extracted soybean
data desired for
our Report on the
Oriental soybean.
Note to Ryerson

regarding the shipping
of parcel post packages
by Diplomatic Parcel
yesterday.

Thursday - Jan. 29. 1931.

Tokyo = Japan.

Mild and clear.

Dr. K. Aso

Imperial University

College of Agriculture

Tokyo, Japan.

Pres. Bull. on inoculation.

We went to the Imper.
Agr. Coll. where Dr. Okazaki
of Tokyo Agr. has made
an appointment for
us with Dr. K. Aso, in
charge of the Bacteriology
Department. In addition
to soil bacteriology Dr. Aso
has worked extensively
on green manuring crops.
Dr. Aso spent a short
at Washington last
fall and became

acquainted with Dr.
A.F. Woods, Dr. Shreiner
and Dr. Kellerman.

Considerable work is
being done with the
bacteria of many legumes.
Several strains of
suybean bacteria

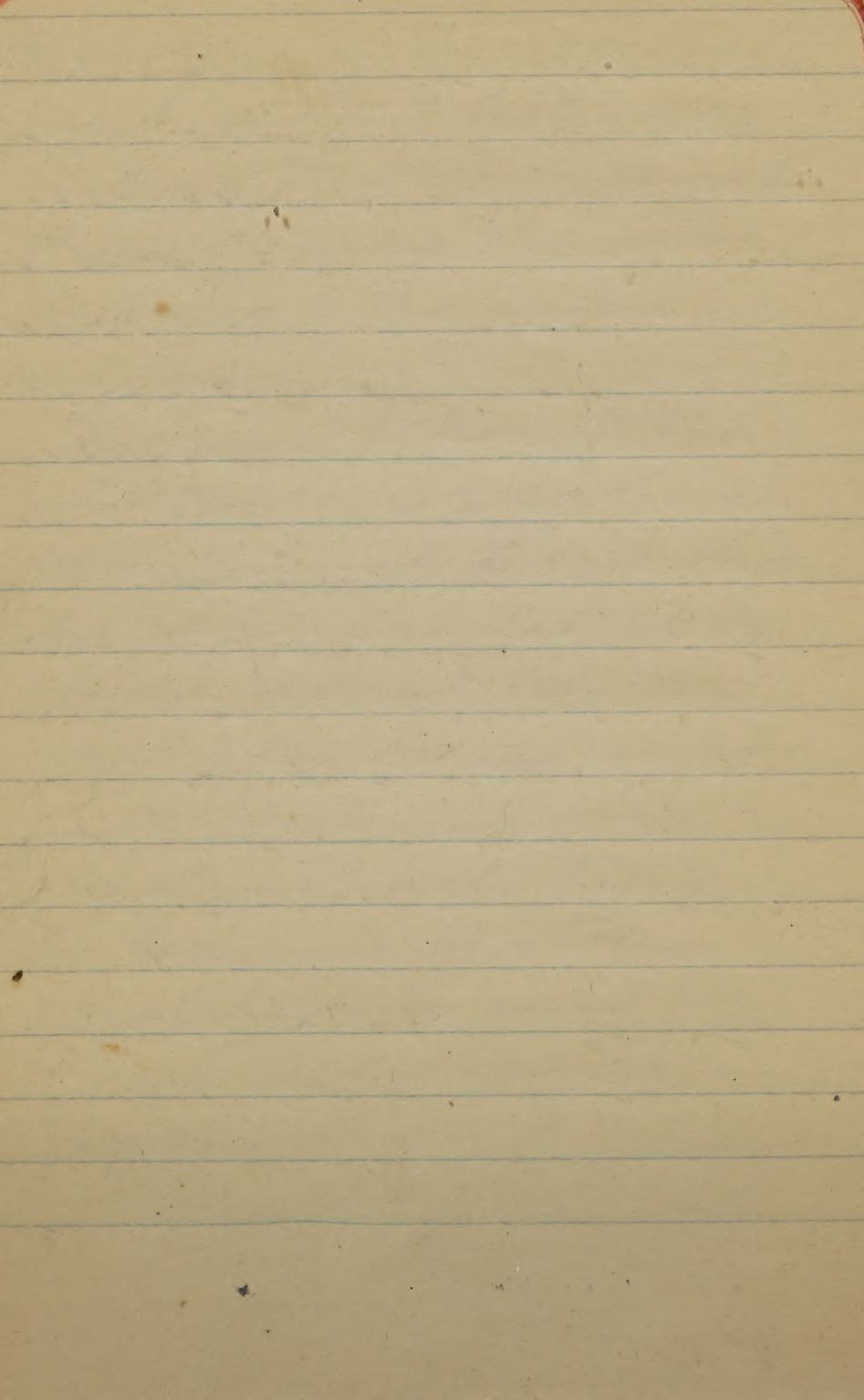
Bacillus radicicola have
been isolated. The bacteria
of Sauge clover (*Astragalus*
occurs quite generally
throughout Japan. The
division has pure
cultures of this legume
and promised us
some to send back
to the states. In the
U.S. we have not been
successful in securing
inoculation for this
clover and this way

be the cause of the poor
success that has been
had in experiments.
No experiments have
been conducted with
the bacteria of the wild
soybean, in fact. They
did not seem to know
there is a wild soybean.
They thought that they
would take up the study
this season.

At lunch we met
Prof. S. Kusano and Prof.
K. Miyake of the Botany
Department. We inquired
as to species of the wild
soybean but they did
not seem to be acquainted
with the common one
Glycine ussuriensis. They
thought Dr. Nakai or
Dr. Makino of the Botany

Division of the Science
Dept. might help us
out as to whether or not
there is more than one
species of the wild
mushroom.

We were taken to the
Soil Bacteriology Lab.
after lunch and shown
the experimental work
being carried on. We
were also given several
publications in
Japanese relating
to legume bacterium
experiments and also
given a mailing in
Japan.



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For some time we have been trying to locate the firm manufacturing Sayamant, an artificial say-sauce, in the Tokyo. Mr. Sugitake at last found that it was being produced by a large fertilizer Co. We called at the main office in the city and met Mr. Koshiro Horie, one of the directors of the Japan Fertilizer Co. Mr. Horie said that this company supplies 65 % of

commercial
Japanese fertilizers,
and that one of the
chemical by-products
from the manufacture
of the fertilizers was
used in the pro-
duction of Soyment.
Although the director
did not give the name
of the by-product, we
previously learned
from another source
that it is hydrochloric
acid. When visiting
Dr. Suzuki, chemist
at the Institute of
Physical and chemical
Research, we learned
of the process of manu-
facture. In the
manufacture of
Soyment, the extracted

say bean oil meal
made by the Hones
oil Mills is used.

As yet Soyment is
not on the market
in large quantities
as it is only recently
that the company had
put it out commercially.
It has a different
flavor than the ordinary
soy sauce but is
cheaper. It can be
produced more
cheaply than the
ordinary soy sauce
and as it requires
only a month to
make, including
fermentation, the
manufactures would
not have so much

~~total~~ Capital tied
up as is the case
where the very same
brush is cured for
a year or more.

We were given some
publications on the
manufacture of soy
meat and its com-
position and value
as a food. Mr. Horie
said he would have
to take up the matter
of our visiting the
plant with the board
of directors and would
phone us later.

About 6:15 P. M. we
had a call and Mr.
Horie advised that
in view of certain
machinery used

not yet being patented,
The directors, thought
it best to allow no
visitors whatever.
However, he said
he would send us
samples of the pro-
ducts, there being
two grades of Sugarcane,
- one with a specific
gravity of 48 and the
other with 50. I do
not think we want
a synthetic orange
in the U. S., as we
have too many
synthetic agnids
now for a dry country.
After our visit to
The Fertilizer Co. we
went to the Kan to

section to look up
a Japanese cooking
school where we
learned miso, soy
sauce, and tofu
were largely used.
We found the school
but it was closed
for the day. The principal
a Japanese lady, said
the school was in
session until about
3 P. M. and she
would be very glad
to have us call any
day and she would
tell us of the various
dishes that can be
prepared from miso
and tofu.

The manufacture
of soy sauce from

Soy sauce,
20 Koku - soy sauce mash
after juice has been pressed
out.

2 Koku Soyment
4 Koku water
270 kin salt.

21 Koku - fresh unrolled
steamed soybeans and
roasted wheat

Fermented in tubs for
one month.

At noon we were
guests of the Pan-Pacific
Club at luncheon.

Jan. 31, 1931 - Saturday.
Tokyo = Japan.

Mild and clear. We
visited the Imperial
Botanical Gardens in
the morning to see
Dr. Nakai and Dr. Makino
with reference to wild
species of angiosperms and
wild legumes in
Japan and Chosen.
We found that they were
both ill in bed with
influenza but we saw
Professors Matsumura
and M. Honda
who gave us much
information concerning
legumes and grasses
in Japan. They gave

our lists of seed that
might be secured from
the imperial gardens
of which there are a
large number of legumes
and grasses.

As far as Professors
Matuzaki and Honda
know there is only one
species of wild soybean
occurring in Japan,
Chosen, and Manchuria
Glycine (Soy) rosurinensis
It was thought that there
might be found varieties
of this species found
but they had no knowledge
of *Soya tomentosa* or
Soya gracilis of which
we had been advised
occurred in Manchuria.

with reference to
Jussia juncea. Prof.
Honda stated that there
is only one species
occurring in Japan,
Chosen and Manchuria,
and that *Jussia juncea*.
Prof. Honda teaches
grasses and other forage
crops in the Imperial
Agr. College.

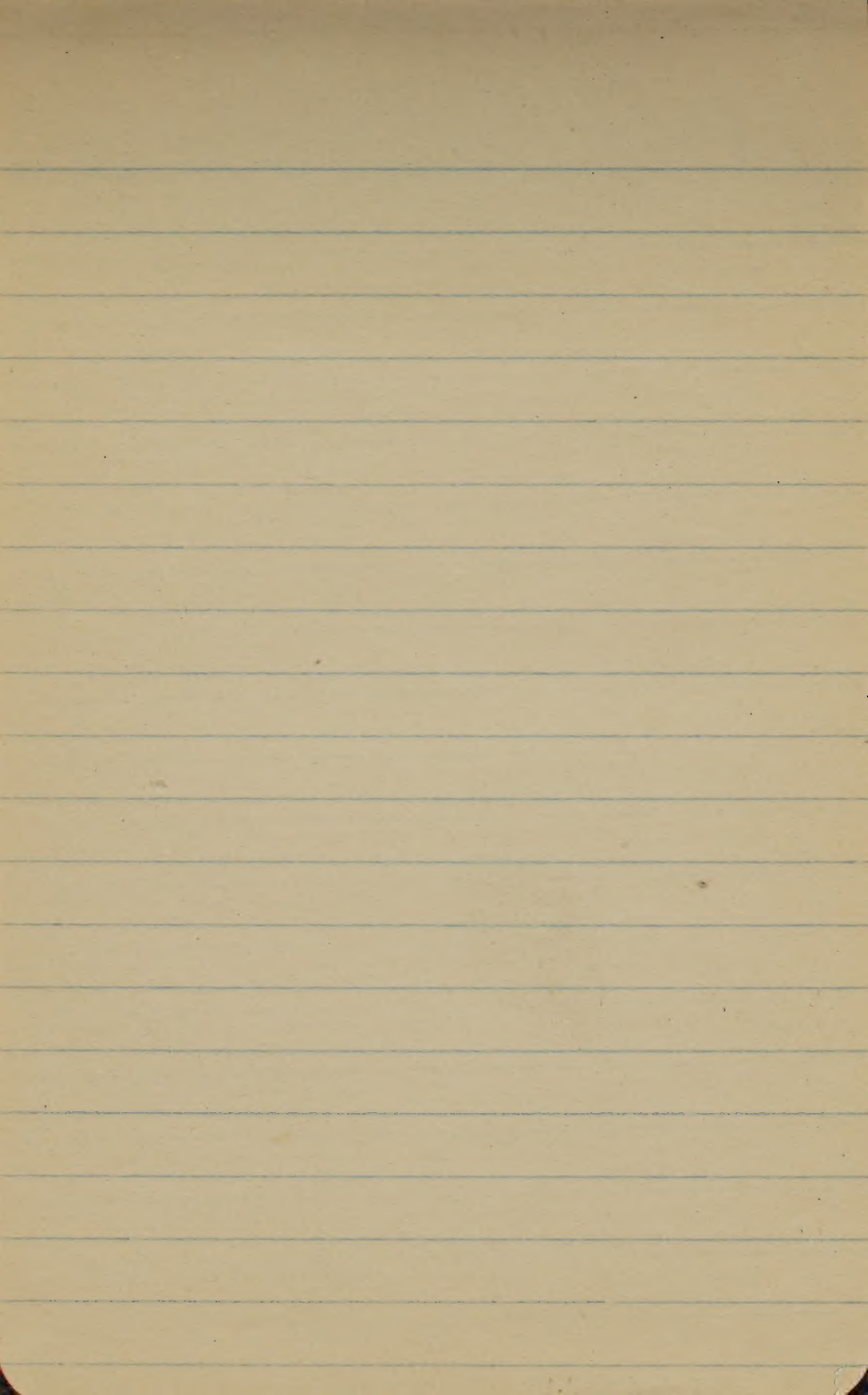
After our visit to the
college we visited several
market sections and
found some say bean
sprouts in certain
markets. In some
cases the sprouts were
in small bundles
while in other cases
they were loose in tubs.
At many of the

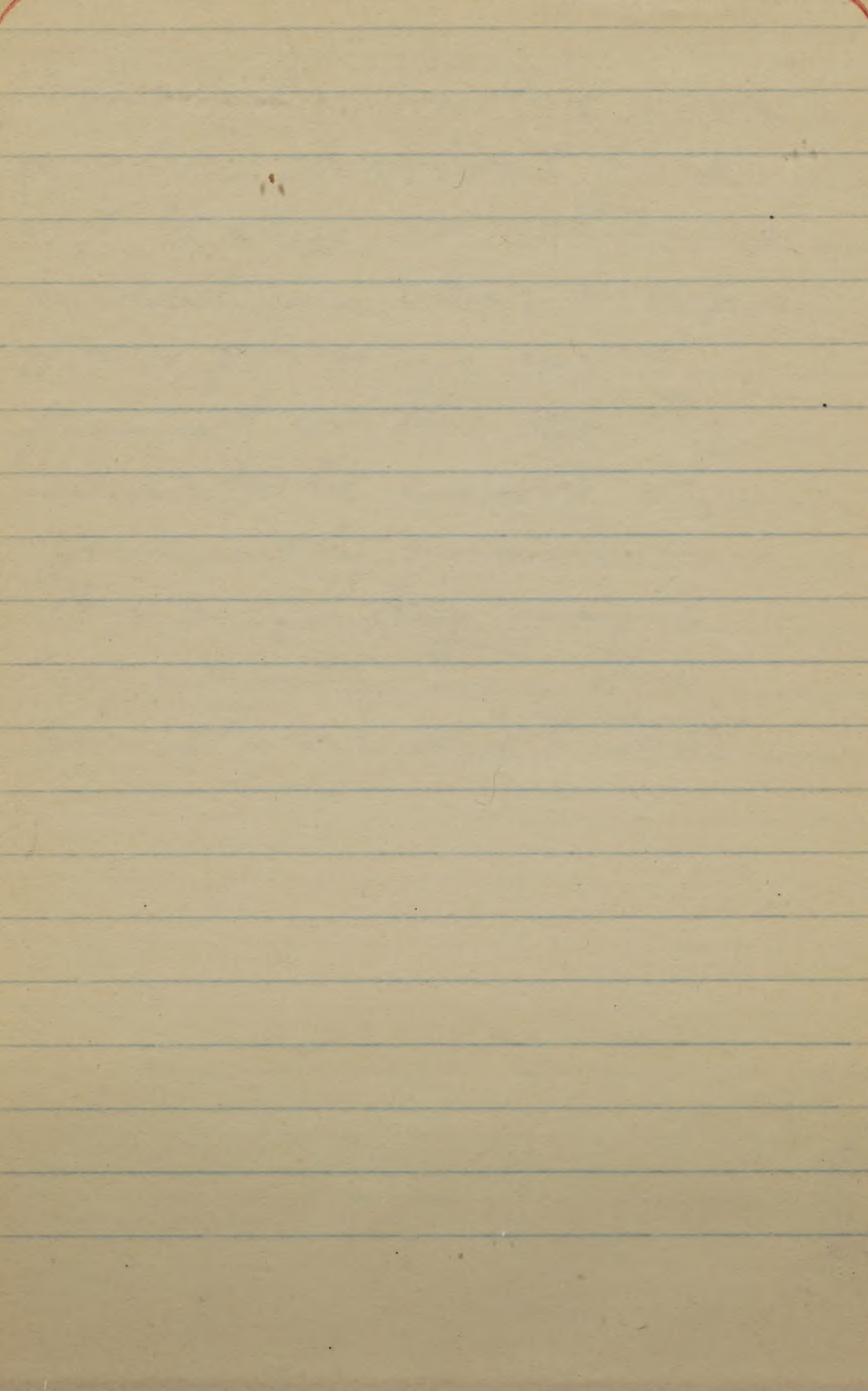
stands. The roasted
puffed soy beans
used in bean scattering
day (Feb. 4). "Ma-ne
Maki", were on sale.
As we did not have
an opportunity of seeing
this ceremony at any
of the shrines or temples
last year, we visited
some of the large temples
and shrines and
found that they were
advertising ^{the} bean
scattering rites on
Feb. 4. At one of the
temples, they gave
us posters advertising
the bean scattering.
The bean scattering
is done at Buddha

temples and Shinto
shrines. At some of
the large shrines and
temples some noted
musicians perform the
bean scattering. At the
Shita Shrine. the
services on bean scattering
day start about 1 P.M.
about the bean-scattering
takes place about
5-6 P.M.

We were learned
that bean curd is
often used with
fish sausage. The
fish sausage (ground
fish) and bean curd
are mixed about half
and half. After mixing
the material is
boiled and then is

Roasted or broiled over
a slow charcoal fire.
It is also sometimes
used in clear soups.
This food is not
found in the city
markets as it is
generally made in
the country and
especially in the
Southern districts.





Cabin #129
Rev. Mr. Kinley
Feb. 17.

44121

#7751

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